

REMARKS

Claims 1, 3, 5, 6 and 8 - 11 are now in the case.

Canceled Claims 12 - 16 are directed to inventions the Examiner deems distinct from that set forth in originally presented Claims 1 - 11.

Before discussing the claims remaining in this application, applicants would first like to discuss generally the invention covered thereby.

The present invention relates to apparatus for applying liquid in a controlled and precise manner to the surface of an edible food even when the surface is wet and/or very soft, such as soft, moist frosting. Traditional writing instruments such as pens and markers, including felt tip markers, cannot effectively apply a liquid to soft frostings or other soft surfaces. For example, if one wishes to decorate the surface of a freshly frosted cookie or cake, a pencil will not work. Similarly, ball point pens and felt-tip markers will also fail. Failure is manifested primarily in two modes. First, the soft frosting will not provide sufficient support to permit satisfactory transfer of the writing agent from the tip of the writing instrument. For pencils and ball point pens to function properly, a certain amount of friction must exist between the writing tip and the surface to be written upon. With very soft substrates, this degree of friction does not exist. Second, the relatively hard

tips of conventional felt tip markers and other conventional writing instruments will gouge and deform very soft substrates, such as for example, fresh frosting.

Extensive research activities carried out by applicants confirms the above. As will be seen from the Declaration Under 37 CFR 1.132 accompanying this Amendment, applicants, when faced with these problems, attempted without success to find any commercially available nib structures providing desired performance. As will be pointed out in greater detail below, such inadequate prior art nibs are exemplified by the arrangements set forth in the prior art cited by the Examiner. Not only do existing nib products provide intermittent and poor fluid transfer to soft substrates, but the substrates during tests conducted by applicants suffered significant deformation and damage due to the relatively high forces exerted on the substrate by the nibs on these products. Additionally, it was difficult to accurately control the position of the nibs of the commercially available products tested relative to a soft frosting substrate. The superior performance of applicants' invention as disclosed and presently claimed herein is the end result of several particular characteristics of the unique nib and its associated hand held container.

Claim 1 is the sole independent claim currently in this case and such claim has been substantially amended to recite

structure and cooperative relationships not taught or suggested by the art of record, whether taken alone or in combination.

The claimed apparatus set forth in Claim 1 is for decorating an edible food without substantially deforming the edible food even when it is soft, moist frosting or other comparably soft food.

Claim 1 now recites an elongated, elastic, highly flexible nib of integral construction formed of open cell foam material of high hydrophilicity connected to the hand held container of the apparatus. Fig. 6 of the application drawings discloses and demonstrates the "highly flexible" nature of applicants' nib.

The claim states that the nib has a porous distal end, a porous nib shaft side wall and a nib interior defining voids in fluid flow communication with the interior of the container and with the pores of the porous distal end and the porous nib shaft side wall. Liquid decorating substance received by the nib interior is conveyed to the porous distal end and the porous nib shaft side wall whereby high levels of said liquid decorating substance are present at the outer surface of said porous distal end and said porous nib shaft side wall for application to said edible food due to contact between said porous distal end or said porous nib shaft side wall and the edible food.

The amended claim states that the nib readily laterally flexes when in contact with the edible food prior to the force applied by the nib to the edible food substantially exceeding the instantaneous yield point of the edible food at the location thereon engaged by the nib when pressure is exerted on the edible food by the nib to substantially prevent deformation of the edible food even when the edible food is soft, moist frosting or other comparably soft food and the pressure exerted is slight during application of the liquid decorating substance to the edible food by the apparatus.

Claim 1 now states that flexing of the nib is operable to bring the porous nib shaft side wall into engagement with the edible food and substantially conform to a surface of the edible food whereby the liquid decorating substance passes through the porous nib shaft side wall and is applied to the edible food by the porous nib shaft side wall without the force applied by the porous nib shaft to the surface of the edible food substantially exceeding the instantaneous yield point of the edible food at the location thereon engaged by the porous nib shaft side wall when the nib is pulled and dragged along the surface of the edible food in engagement therewith. It is also set forth that the nib flexes laterally and deflects to weather vane responsive to changes in the direction of the nib as it is pulled and dragged along the surface of the edible food in engagement therewith.

Claim 1 further sets forth that the nib utilizes capillary action to carry liquid decorating substance from the nib interior to the outer surface of the porous nib shaft side wall and porous distal end to replace liquid decorating substance transferred from the nib to the edible food and to maintain a high fluid level at both the porous distal end and the porous nib shaft side wall.

Claim 1 further states that the nib is responsive to withdrawal of the nib from contact with the edible food to return to its undeflected condition.

As described in detail in the application specification, the various features set forth in Claim 1 in its present form combine to provide superior liquid transfer performance onto a soft substrate such as moist, soft frosting for decorating or other purposes. Such an arrangement is certainly not obvious and it is not taught or suggested by the art of record, whether taken alone or in combination. The specification provides details of the extensive testing required by applicants in order to develop an apparatus achieving the desired results. The accompanying declaration of the co-inventors is also highly relevant in this regard, particularly since, as will be discussed in more detail below, a device constructed in accordance with the teachings of the Naor et al reference relied upon to a large degree in the rejection of the

claims was in fact tested. Such device was demonstrated to the Examiner during the September 17, 2004 Interview and in this regard the Summary of Interview sets forth the demonstrated deficiencies of the Naor pen.

Claim 1 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Naor et al in view of Kiryu, Sailor Pen, Shion Kagaku, two Pentel references, Knable and Wagner Pelikan, or Kiryu in view of Naor et al, both combinations further in view of Williamson.

The patent to Naor et al relates to a capillary feed marking instrument which may essentially be in the nature of a conventional felt-tip pen, for example, capable of producing edible colored indicia directly on a food substrate. Naor et al also alleges that the markers disclosed may be used to decorate frosting and/or icing or even employed to write on whipped cream or frosting without bleeding. The problem when attempting to use Naor as a reference however is that Naor et al does not actually disclose structure which can satisfactorily perform in such a manner. Wanting a device to perform is certainly not a disclosure that it will in fact perform as desired.

There is no teaching or suggestion in Naor et al that the marker nib flexes. It is certainly not highly flexible by any stretch of the imagination. Naor et al states that suitable marking tips for use in the marking markers of the invention are

fibrous nibs made of felt, polyester or nylon for controlled release of the edible coloring composition. Fibrous marking tips of the type employed by Naor et al apparently can suitably be of any commercially available type. However, commercially available nibs, such as proposed for use by Naor et al, do not work satisfactorily to deposit a liquid decorating substance to moist, soft frosting or other soft material.

As pointed out above, such moist, soft failure is manifested in the inability of the soft frosting or other substrate to provide sufficient support to permit satisfactory transfer of the writing agent. Furthermore, relatively hard tips of conventional felt tip or other writing instruments will gouge and deform very soft substrates. There is poor application of liquid to the product. Applicants know this. Prior art devices they tested and indicate in test graphs of their application, including that of Fig. 6, and found totally unsatisfactory from the standpoint of marking moist, soft frosting or similar soft edible food products included a device constructed in accordance with the teachings of Naor et al. While Naor et al states that it can be used to mark frosting for example, the arrangements disclosed in Naor et al do not avoid the problems associated with other such commercially available products, such as gouging, that applicants' apparatus overcomes, as described in the specification. A user using a relatively hard, inflexible nib,

such as taught by Naor et al would require exceptional skill to provide even half way acceptable results when coloring soft foods. No matter how great the manual dexterity of the user some gouging and distortion of the soft substrate will occur using the Naor et al device. Plowed debris created by the gouging further reduces effective transfer of color to the substrate.

In addition to not being highly flexible, the Naor nib does not appear to be hydrophilic, certainly not an open cell foam material of high hydrophilicity as claimed.

As seen by the examiner, the Naor pens were hard tipped pens with an inflexible fibrous nib that required significant force to write. Because they do not appear to swell and based on the research of the inventors, it is believed that the type of fibrous nibs used in the Naor pens is made of hydrophobic fibers that are aligned and surface-bonded to create a series of directional capillary channels that move the ink from the reservoir to the tip. Some ink could be deposited on the frosted surface using a gentle, controlled touch (unlike the fine motor skills that a child might be able to manage) until the tip clogged with frosting whereupon surface gouging became evident. The Naor pens were unable to write on the pudding surface and quickly collected a coating on the surface thereof. It was also pointed out to the examiner that the package directions for using the Naor pens on frosting required that users allow the frosting

surface to dry before attempting use of the pens- a detail that is not mentioned in the Naor patent disclosure and which significantly affects the scope of the assertions regarding frosting surfaces in that disclosure.

Naor et al does not disclose or suggest in any manner whatsoever use of open cell foam material as an applicator nib. This material is not a mere matter of choice. Such nib was developed by applicants after a great deal of experimentation. Many other types of materials were considered and tested by applicants to achieve the objectives they desired. As pointed out in applicants' specification, the high degree of flexibility of the nib provided by open cell foam material is particularly important to the instant invention. The open cell foam material nib yields by gentle and controlled bending, even when low level forces are applied. The high flexibility of the nib also helps to prevent the nib itself from becoming clogged with food product.

The physical flexibility characteristics of the claimed nib material are shown in the Displacement versus Force graph of Fig. 6. The claim does not merely recite "functional capabilities" as suggested by the Examiner.

The claimed high hydrophilicity of the open cell foam material results in the ability of the foam to readily absorb and transfer liquids. The nib continuously has available at its

outer surface liquid for transfer to a writing surface. The combination of high flexibility, high hydrophilicity and high level of fluid at the nib surface enables liquid to be applied to extremely soft materials, as demonstrated to the Examiner.

These features are set forth in Claim 1 and not taught or suggested by either Naor et al or any of the other prior art of record.

Naor et al does not suggest the claimed feature that the nib thereto readily laterally flexes when in contact with the edible food prior to force applied by the nib to said edible food substantially exceeding the instantaneous yield point of the edible food at the location thereon engaged by the nib to substantially prevent deformation of the edible food even when the edible food is soft, moist frosting or other comparably soft food.

Furthermore, there is no teaching in Naor et al that flexing of the nib is operable to bring the porous nib shaft side wall into engagement with the edible food with the porous nib shaft side wall substantially conforming to the engaged surface of the edible food whereby the liquid decorating substance passes through the porous nib shaft side wall and is applied to the edible food by the porous nib shaft side wall without the force applied to the porous nib shaft to the surface of the edible food substantially exceeding the instantaneous yield point of the

edible food at the location thereon engaged by the porous shaft side wall when the nib is pulled along the edible food surface.

Nor does Naor et al suggest that the nib flexes and laterally deflects to weather vane responsive to changes in the direction of the nib as it is pulled and dragged along the edible food surface in engagement therewith. Since Naor et al does not even suggest that the nib is flexible, it obviously does not, as recited in Claim 1, return to its original undeflected condition responsive to withdrawal of the nib from the edible food.

The patents to Kiryu, Sailor Pen, Shion Kagaku, the two Pentels, Knable and Wagner Pelikan fail to remedy the deficiencies of Naor et al as a reference.

The Examiner states that it is notoriously old in the art to provide markers with foamed nibs and specifically, open celled foam nibs, which foam nibs "will inherently be flexible." This is not correct. In fact, many types of foams are rigid, even when soaked in water. In any event, these patent publications pertain to instruments for writing on conventional, relatively hard surfaces, such as paper. There is no teaching or suggestion whatsoever that the arrangements are appropriate or suitable for the purpose of applying a liquid decorating substance to an edible food while not substantially deforming the edible food even when the edible food is soft and the pressure exerted is slight during application of the liquid decorating

substance to the edible food. They do not provide any suggestion whatsoever of the material and physical characteristics of the nib as now recited in Claim 1 and discussed above. Contrary to a statement by the Examiner, applicants have not combined a conventional nib with a conventional marker. There is no teaching or suggestion anywhere in the prior art of applicants' unique claimed nib. The nib did not exist until developed by applicants. The nib structure and properties are not taught by the prior art, whether taken alone or in combination.

During the interview a "brush pen" of non-edible ink that is sold in art stores and two types of hydrophobic foam (a cosmetic pad and a disposable paint brush) dipped in food coloring were demonstrated. All were essentially ineffective at marking the frosted surface or the pudding without gouging the surface and entraining a coating of product.

Kiryu discloses a "hard wearing" nib for implements using rapid drying ink such as pens, marking pens, etc. There is no teaching of nib flexibility.

Sailor Pen discloses a writing nib for a fountain pen which is of specialized construction for use when doing calligraphy. There is no suggestion that such an arrangement can be used for, or is suitable for, applying a liquid decorating substance to a soft edible food product.

Shion Kagaku relates to a fibrous pen tip formed by connecting cotton yarn with spongy material. There is no suggestion whatsoever in this reference of a device suitable for use when applying a liquid decorating substance to a soft edible food product.

The two Pentel developments relate to a specific ink composition and a pen point of a standard writing instrument produced in a specific manner. There is no suggestion whatsoever that the items which are the subject matter of the Pentel references are suitable for use in the manner of applicants' device. The ink is not appropriate for such purpose nor is there any suggestion that the pen point is flexible or in any other way suitable for use to apply the material to a soft food substrate.

Knable relates to a specific ink used in a writing pen or other liquid applicator instrument. A foamed nib is mentioned as one possibility but there is no teaching or suggestion of a nib of the specific character set forth in Claim 1.

Wagner Pelikan discloses a pen tip of porous material with parallel capillary tubes inside it, the tubes being prefabricated and of plastic, glass, ceramic metal or other suitable material. These tubes function as stiffeners and the Wagner Pelikan device would appear to be completely unsuited for the use for which applicants' apparatus was designed.

Williamson relates to a stamp and it still is not seen how the reference has any relevance to applicants' claimed invention. Williamson suggests use of a resilient foam marking surface on a stamp but the image produced thereby is caused by conventional stamp up and down motion. There is no lateral movement of the Williamson device relative to the item being stamped since it has a predetermined image formed without sliding the stamp along a surface. Furthermore there is no teaching that the material could be useful for writing or otherwise forming a non-stamped design on a soft food surface. Sliding movement would obviously cause gouging and smearing. There is no apparent motivation why one skilled in the pen art would look to stamp pads for solutions to problems associated with the deposit of edible ink on soft food surfaces.

It is not seen how the many references applied by the Examiner can properly be combined. The situation is one of quantity, not quality, insofar as citation of these references is concerned. The combinations proposed are failed attempts at hindsight reconstruction of applicants' claimed apparatus. It is submitted that Claim 1, as currently amended, clearly patentably defines over the cited and applied prior art, whether taken alone or in combination.

Claim 3 depends from Claim 1 and sets forth a specific type of open cell foam material, acetalized polyvinyl alcohol,

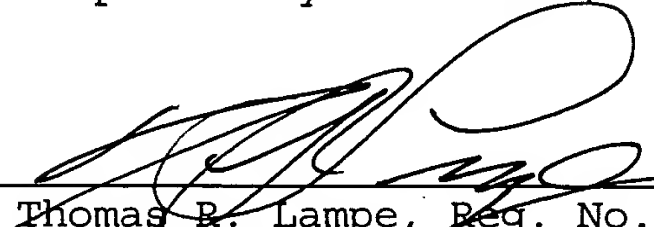
found to have the desired characteristics, including high flexibility and high hydrophilicity. There is no suggestion in the prior art of this material, nor is there a teaching of the limitation of Claim 5, depending from Claim 3.

The shape of the nib set forth in Claim 6, the porosity range of the open cell foam material set forth in Claim 8, the average pore size set forth in Claim 9, the water absorption rate set forth in Claim 10 and the pore size distribution set forth in Claim 11 are important and not mere matters of choice since they have been found to contribute to the operation of the apparatus to perform in a desired manner with regard to application of a liquid decorating substance to a soft edible food. These structural limitations and parameters were established after considerable experimentation by applicants and there is no teaching of these features in the prior art when incorporated as part of the novel overall combination of Claim 1 from which Claims 6, 8, 9, 10 and 11 depend either mediately or immediately. These characteristics make significant contributions to operation of applicants' claimed apparatus.

Passage of this case to issue is believed to be in
order and such action is earnestly solicited.

Respectfully submitted,

By:



Thomas B. Lampe, Reg. No. 22,454
BIELLEN, LAMPE & THOEMING
1990 N. California Blvd., Suite 720
Walnut Creek, CA 94596
(925) 937-1515